

Kansas State Fire Marshal – Fire Prevention Division

References (s): K.S.A. 31-133 (a)(4); 06-IBC/9; 06-IFC/9; 00-101/9.7

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FIRE FACT 063 – SPRINKLER SYSTEM

Sprinkler systems are designed to quickly get water to the seat of a fire. The design of a sprinkler system is enormously complex, taking into account many different factors like available water supply, construction type, potential fuel load, and the use of the space to be protected. In order to function effectively and properly, sprinkler systems must be designed and constructed to very specific standards. Once installed, the systems must be properly maintained and tested to ensure they will work when needed.

Sprinkler systems are required in some types of facilities, regardless of whether the building is new or existing. Use the chart below for baseline requirements. For more information on this requirement, review the International Building Code, International Fire Code, and Life Safety Code for the specific occupancy requirements.

	Facility Type	Fire Code	System Required		Type
			New	Existing	
Education	USD	IBC/IFC (E)	Yes	Yes*	13
	Private School	IBC/IFC (E)	Yes	Yes*	13
	Preschool	IBC/IFC (E)	Yes	Yes*	13
	Childcare Center	IBC/IFC (I)	Yes	Yes*	13
	College	IBC/IFC (B)	No	No	
Healthcare	Hospital	NFPA 101	Yes	**	13
	Nursing Home	NFPA 101	Yes	Yes (2013)	13
	Hospice	NFPA 101	Yes	**	13
	Ambulatory Surgical Center	NFPA 101	No	No	
	Residential Board & Care (L)	IBC/IFC (I)	Yes	Yes	13
	Residential Board & Care (S)	IBC/IFC (R)	Yes	Yes	13R
Other	Detention/Correctional	IBC/IFC (I)	Yes	Yes	
	Hotels/Motels	IBC/IFC (R)	Yes	Yes	13R
	Dormitories	IBC/IFC (R)	Yes	Yes	13R

Facilities that currently do not have an automatic sprinkler system installed may continue to operate without retroactively installing a system. However, if the building undergoes major renovation, additions, or alterations to the building or licensure, then the building will be required to come up to “New” standards.

* Automatic sprinkler system is only required in levels below exit discharge and in buildings greater than 20,000 sq ft in area. An automatic sprinkler system is not required in any area below the level of exit discharge where every classroom (throughout the building) has at least one exterior exit door at ground level.

** Automatic sprinklers may or may not be required, depending upon the facility construction type and the number of stories

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SYSTEM PLAN REVIEW

All new system installations as well as existing modifications/alterations, listed above, shall have plans submitted to KSFM for review. In addition to the plans that are required to be submitted for review, KSFM will conduct a cursory review of any sprinkler plan submitted.

KSFM has a 30 day review period for all plans submitted to our office. Make sure you plan accordingly especially for facilities that are under a timeline for having a completed installation. It is estimated that a sprinkler installation could take anywhere from 6mo to 1 year or more depending upon the size of the facility.

The submitted plans must include system layout diagrams, equipment cut sheets, and hydraulic calculations. See 2006 IBC section 903 for more clarification.

The design, installation, modification, inspection, and maintenance of fire sprinkler systems shall comply with all requirements of the applicable nationally promulgated codes and standards, regardless of whether or not KSFM required a plan or whether or not plan approval was given by any jurisdiction, including the KSFM.

Only those individuals properly trained, educated and experienced shall participate in work on these systems. A copy of the “Contractor’s Material and Test Certificate for Aboveground Piping,” which indicates the system meets NFPA 13 and NFPA 25 standards, shall be left at the building premises.

Every new system and modified system are expected to be reviewed or under the supervision of either a Kansas licensed engineer with knowledge in automatic fire sprinkler systems or a fire protection engineer.

LOCAL JURISDICTION REVIEW

In some larger cities, the local fire department has a full-time inspection department that is willing to conduct the plan review. Additionally, some fire departments require sprinkler plans to be submitted to them as part of their own requirements.

In these cases, the KSFM will accept the local jurisdiction review in lieu of a full review being conducted by both KSFM and the local jurisdiction. However, the local jurisdiction must notify KSFM that a review has been conducted and that the installation meets all requirements of the Kansas Fire Prevention Code.